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Stress-testing Africa's recent growth and poverty performance☆

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Abstract

After an impressive acceleration in growth and poverty reduction since the mid-1990s, many African countries continue to register robust growth in the aftermath of the global financial crisis. Will this growth persist, given the tepid recovery in developed countries, numerous weather shocks, and civil conflicts in Africa? This paper "stress tests" African economies. The findings indicate that Africa's long-term growth is fairly impervious to a prolonged recession in high-income countries. Growth is, however, much more sensitive to a disruption of capital flows to the region, and to internal shocks, such as civil conflict and drought, even if the latter follow historical patterns. The broad policy implication is that with proper domestic production conditions African countries can sustain robust long-term growth. Because of the economic dominance of the agriculture sector and the share of food in household budgets, countries will need to increase the resilience of agriculture and protect it from unfavorable climate change impacts, such as drought. As in the past, civil conflicts and violence will pose by far the greatest threat to Africa's performance.

JEL classification: I32; F63; O55; C68

Keywords: Poverty; Economic development; Africa; Computable general equilibrium (CGE) models

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1. Introduction

Despite the recent global economic recession, most countries in Sub-Saharan Africa (hereafter SSA or Africa) have continued to register relatively robust growth. In fact, since the mid-1990s an acceleration of economic growth in much of Africa has produced rising incomes and faster human development. These achievements were not just due to a favorable external environment – such as expanding global trade, buoyant export prices, debt relief and rising foreign aid for much of the period – but also to an improved policy environment, including greater macroeconomic stability and market reforms that cut state interventions and their fiscal costs, as well as to lower frequency of civil conflicts in the region (Arbache, Go, & Page, 2008). Although challenges in policy and governance remain, growth has been pervasive across African countries, be they resource-rich or resource-poor, large or small, landlocked or coastal (World Bank, 2013a, 2013b). This unprecedented performance naturally raises the question: If there are further adverse shocks to the global economy and the region, will growth persist in the long-term? This paper attempts to answer this question by "stress-testing" African economies using an integrated set of general-equilibrium models of the global economy that simulate the effects of shocks on national economies.

The empirical analysis in this paper relies on two tools developed at the Development Economic Prospects Group of the World Bank: the LINKAGE global CGE model and the Global Income Distribution Dynamics (GIDD) micro-simulation framework. We cover 18 individual SSA countries, along with the BRICS, the remaining developing countries, as well as the EU, the US, the OPEC and the remaining high-income countries. Poverty and impact on the distribution of welfare among households and individuals are calculated from the GIDD, a global micro-simulation model. This global macro-micro model combines a set of price and volume changes from the CGE model with expected changes in demographic structure to create a simulated distribution of income in 2025.

The long-term scenarios consist of a baseline and a set of adverse shocks as alternatives through 2025. The baseline scenario tracks the historical growth from the base year 2007 to 2012 and follows the current medium and long-term global economic projections of the World Bank. The baseline describes a steady recovery from the recent economic recession in high-income countries and continued growth in developing countries. In this scenario, the share of developing countries and also of Africa in global GDP is gradually rising. Within Africa, Nigeria catches up to South Africa as the dominant economy. Next, we examine how this baseline economic performance is disrupted by a set of severe adverse shocks, both external and internal to the Africa region. In the spirit of stress testing, all these shocks are hypothetical; although possible, they are not meant to be understood as likely any time soon or in the selected countries applied. Shocks that originate outside of Africa include: prolonged recession in the high-income countries, prolonged recession coupled with a collapse of financial flows in and out of SSA, and an OPEC oil supply shock. Two shocks that originate in Africa include: drought in several countries, and civil conflict in key SSA countries. The paper examines the growth and poverty impact of these shocks on African economies.

The remainder of the paper is organized in the following sections: (i) methodology, (ii) baseline scenario, (iii) alternative scenarios, (iv) impact on poverty, and (v) conclusions.

2. Methodology

We design the forward-looking scenarios by employing the World Bank's global computable general equilibrium (CGE) model called LINKAGE and the global microsimulation framework